

WHAT IS CLAIMED IS:

1. A system for measuring the profile of an object comprising:
a source creating a beam of electromagnetic energy;
an electromagnetic beam receiver spaced from said source for
5 processing an output signal proportional to the girth of said object
being measured;
a platform for providing rotational and vertical movement of
said object being measured causing said object to obstruct a portion of
said electromagnetic beam generated by said source; and
10 a processor for processing said output signal from said
electromagnetic beam receiver to form a composite profile of said
object measured.
2. The system of claim 1 further comprising a motion unit for
15 providing said rotation and vertical movement.
3. The system of claim 2 wherein said motion unit includes a
vertical drive device for vertically displacing said platform.
- 20 4. The system of claim 3 where said vertical drive device includes
a linear screw drive.
5. The system of claim 2 wherein said motion unit includes a
rotational drive device for rotationally displacing said platform.

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6. The system of claim 6 wherein said vertical drive device includes a gear driven mechanism.

7. The system of claim 1 further comprising an indexing station for providing a plurality of objects to said platform, said indexing station automatically positions a respective object on said platform.

8. The system of claim 1 wherein said beam of electromagnetic energy is an electromagnetic laser beam.

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9. The system of claim 8 wherein said electromagnetic laser beam is generated by a class II laser light source.

10. The system of claim 9 wherein said laser light source is a visible red light source.

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11. The system of claim 10 wherein said visible red light source includes a wavelength of 670 nanometers.

12. A system for measuring the profile of an object comprising:
a source creating a beam of electromagnetic energy;
an electromagnetic beam receiver spaced from said source for processing an output signal proportional to the girth of said object being measured;
a platform for supporting said object;
a motion unit for providing rotational and vertical movement of

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said platform for disposing said object within said electromagnetic beam of energy, said object obstructs a portion of said electromagnetic beam generated by said source; and

5 a processor for processing said output signal from said electromagnetic beam receiver to form a composite profile of said object measured.

13. A method for measuring the profile of an object comprising the steps of:

10 positioning said object on a platform of a motion unit;
providing a source for generating a primary beam of electromagnetic energy of a predetermined width;

vertically and rotationally disposing said object within said primary beam of electromagnetic energy using said vertical motion
15 unit, said object obstructing a portion of said primary beam of electromagnetic energy;

receiving at least one secondary electromagnetic beam of energy within a receiving unit disposed opposite of said source, said at least one secondary electromagnetic beam of energy has a smaller width
20 than said primary beam; and

processing an output signal proportional to a girth of said object being measured to form a composite profile of said object measured.

14. The method of claim 13 wherein said object is vertically
25 positioned within said primary beam of electromagnetic energy by a vertical drive device for profiling a respective plane of said object.

15. The method of claim 13 wherein said object is rotationally positioned within said primary beam of electromagnetic energy by a rotational drive device for profiling a respective view within a respective plane of said object.

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16. The method of claim 13 further comprising the step of transmitting said output signal to a computer for storing said composite profile.

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17. The method of claim 13 wherein said processing step comprises measuring a void area within said receiving unit for determining said composite profile.

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18. The method of claim 13 wherein said processing step comprises measuring at least one secondary electromagnetic beam and determining the difference between a width of said primary beam of electromagnetic energy and said at least one secondary electromagnetic beam for forming said composite profile.

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19. The method of claim 13 further comprising the step of determining a perpendicularity of said object.

20. The method of claim 13 further comprising the step of determining a zero reference point for said object.

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